Claims

We claim:

1. A method for identifying a modulator of at least one gene that is differentially-expressed in fibrotic tissue or during fibrogenesis, or a polypeptide encoded by the differentially-expressed gene, in a cell population, comprising: (a) contacting the cell population with a test agent under conditions effective for the test agent to modulate a differentially-expressed gene, to modulate the biological activity of the polypeptide encoded by the differentially-expressed gene; and (b) determining whether the test agent modulates the expression of the gene or biological activity of the polypeptide encoded by the gene.

2. The method of claim 1, wherein said determining step comprises detecting mRNA or the polypeptide encoded by the differentially-expressed gene.

3. The method of claim 1, wherein the cell population comprises cells of the female reproductive tract.

4. The method of claim 1, wherein the cell population comprises endometrial cells of the female reproductive tract.

5. The method of claim 1, wherein the cell population comprises human cells.

6. The method of claim 1, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of docking protein 1, 62 kD (downstream of tyrosine kinase 1); centromere protein A (17 kD); catenin (cadherin-associated protein), beta 1 (88 kD); nuclear receptor subfamily 1, group I, member 2; v-rel avian reticuloendotheliosis viral oncogene homolog A; LGN Protein; CDC28 protein kinase 1; hypothetical protein; solute carrier family 17 (sodium phosphate), member 1; FOS-like antigen-1; nuclear matrix protein p84; LERK-6 (EPLG6); visinin-like 1; phosphodiesterase 10A; KH-type splicing regulatory protein (FUSE binding protein 2); Polyposis locus (DP1 gene) mRNA; microtubule-associated protein 2; CDC5 (cell division cycle 5, S pombe, homolog)-like; Centromere autoantigen C (CENPC) mRNA; RNA guanylyltransferase and 5'-phosphatase; Nijmegen breakage syndrome 1 (nibrin); ribonuclease, RNase A family, 4; keratin 10 (epidermolytic hyperkeratosis; keratosis palmaris et plantaris); basic helix-loop-helix domain containing, class B, 2; dual specificity phosphatase 1; annexin A11; putative receptor protein; Human endogenous retrovirus HERV-K(HML6); mitogen-activated protein kinase kinase kinase 12; TXK tyrosine kinase; kynureninase (L-kynurenine hydrolase); ubiquitin specific protease 4 (proto-oncogene); peroxisome biogenesis factor 13; olfactory

receptor, family 2, subfamily F, member 1; membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3); origin recognition complex, subunit 1 (yeast homolog)-like; dTDP-D-glucose 4,6-dehydratase; cytochrome c oxidase subunit VIa polypeptide 2; gamma-tubulin complex protein 2; Monocyte chemotactic protein-3; myelin transcription factor 1; inhibitor of growth family, member 1-like; thyroid hormone receptor, alpha myosin-binding protein C, slow-type; fragile X mental retardation 2; sonic hedgehog (Drosophila) homolog; 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2; SFRS protein kinase 2; excision repair cross-complementing rodent repair deficiency; cyclin-dependent kinase 5, regulatory subunit 1 (p35); poly(A)-specific ribonuclease (deadenylation nuclease); solute carrier family 12 (potassium/chloride transporters), member 4; Pseudogene for metallothionein; natriuretic peptide precursor A; intercellular adhesion molecule 2; apoptosis antagonizing transcription factor; similar to rat HREV107; major histocompatibility complex, class II, DP beta 1; MpV17 transgene, murine homolog, glomerulosclerosis; uroporphyrinogen decarboxylase; proteasome (prosome, macropain) 26S subunit, ATPase, 1; fms-related tyrosine kinase 3 ligand; actin, gamma 1; Protein Kinase Pitslre, Alpha, Alt. Splice 1-Feb; nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha; pyruvate kinase, muscle; telomeric repeat binding factor 2; cell division cycle 2, G1 to S and G2 to M; ADP-ribosylation factor 3; NRF1 Protein; H factor (complement)-like 3; serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 6; mRNA of muscle specific gene M9; solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3; ribosomal protein L36a; suppressor of Ty (S. cerevisiae) 4 homolog 1; amino-terminal enhancer of split; ubiquitin A-52 residue ribosomal protein fusion product 1; hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase; chaperonin containing TCP1, subunit 2 (beta); tyrosine kinase with immunoglobulin and epidermal growth factor homology; domains; Fc fragment of IgG, receptor, transporter, alpha; NRD1 convertase; ADP-ribosylation factor 5; transcription elongation factor A (SII), 1; like mouse brain protein E46; titin; fibromodulin; and Abi-interactor 2 (Abi-2).

7. The method of claim 1, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of CDKN1B, CDKN1C, CTGF, fibromodulin, and Abi-2.

8. The method of claim 1, wherein the at least one differentially expressed gene includes at least one of IL-11, IL-13, EGR1, EGR2, EGR3, CITED2, P300, E2F1, E2F2,

E2F3, E2F4, E2F5, MCP3, CXCL5, CCL7, SMAD3, TYMS, GT198, SMAD7, NCOR2, TIMP-1, and ADAM17.

9. The method of claim 1, wherein the at least one differentially-expressed gene includes at least one of those genes listed in Table 9.

10. The method of claim 1, wherein the at least one differentially-expressed gene includes at least one gene selected from the group consisting of stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

11. The method of claim 1, wherein the at least one differentially expressed gene includes a plurality of genes comprising stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

12. A method for detecting a fibrotic disorder in a subject by: (a) providing a biological sample obtained from the subject; (b) analyzing the expression of at least one gene that is differentially expressed in the fibrotic disorder of interest as compared to normal tissue; and (c) correlating the expression of the at least one differentially expressed gene with the presence or absence of the fibrotic disorder in the subject.

13. The method of claim 12, wherein the fibrotic disorder is a fibrotic disorder of the female reproductive tract.

14. The method of claim 12, wherein the fibrotic disorder is a uterine fibrosis.

15. The method of claim 12, wherein the fibrotic disorder is a fibrotic disorder of the female reproductive tract selected from the group consisting of leiomyoma, endometriosis, ovarian hyperstimulation syndrome, adhesion, and endometrial cancer.

16. The method of claim 12, wherein the sample comprises smooth muscle cells.

17. The method of claim 12, wherein the sample comprises endometrium or peritoneal fluid.

18. The method of claim 12, wherein the normal tissue comprises myometrium.

19. The method of claim 12, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of docking protein 1, 62 kD (downstream of tyrosine kinase 1); centromere protein A (17 kD); catenin (cadherin-associated protein), beta 1 (88 kD); nuclear receptor subfamily 1, group I, member 2; v-rel avian reticuloendotheliosis viral oncogene homolog A; LGN Protein; CDC28 protein kinase 1; hypothetical protein; solute carrier family 17 (sodium phosphate), member 1; FOS-like

antigen-1; nuclear matrix protein p84; LERK-6 (EPLG6); visinin-like 1; phosphodiesterase 10A; KH-type splicing regulatory protein (FUSE binding protein 2); Polyposis locus (DP1 gene) mRNA; microtubule-associated protein 2; CDC5 (cell division cycle 5, S pombe, homolog)-like; Centromere autoantigen C (CENPC) mRNA; RNA guanylyltransferase and 5'-phosphatase; Nijmegen breakage syndrome 1 (nibrin); ribonuclease, RNase A family, 4; keratin 10 (epidermolytic hyperkeratosis; keratosis palmaris et plantaris); basic helix-loop-helix domain containing, class B, 2; dual specificity phosphatase 1; annexin A11; putative receptor protein; Human endogenous retrovirus HERV-K(HML6); mitogen-activated protein kinase kinase kinase 12; TXK tyrosine kinase; kynureninase (L-kynurenine hydrolase); ubiquitin specific protease 4 (proto-oncogene); peroxisome biogenesis factor 13; olfactory receptor, family 2, subfamily F, member 1; membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3); origin recognition complex, subunit 1 (yeast homolog)-like; dTDP-D-glucose 4,6-dehydratase; cytochrome c oxidase subunit VIa polypeptide 2; gamma-tubulin complex protein 2; Monocyte chemotactic protein-3; myelin transcription factor 1; inhibitor of growth family, member 1-like; thyroid hormone receptor, alpha myosin-binding protein C, slow-type; fragile X mental retardation 2; sonic hedgehog (Drosophila) homolog; 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2; SFRS protein kinase 2; excision repair cross-complementing rodent repair deficiency; cyclin-dependent kinase 5, regulatory subunit 1 (p35); poly(A)-specific ribonuclease (deadenylation nuclease); solute carrier family 12 (potassium/chloride transporters), member 4; Pseudogene for metallothionein; natriuretic peptide precursor A; intercellular adhesion molecule 2; apoptosis antagonizing transcription factor; similar to rat HREV107; major histocompatibility complex, class II, DP beta 1; MpV17 transgene, murine homolog, glomerulosclerosis; uroporphyrinogen decarboxylase; proteasome (prosome, macropain) 26S subunit, ATPase, 1; fms-related tyrosine kinase 3 ligand; actin, gamma 1; Protein Kinase Pitslre, Alpha, Alt. Splice 1-Feb; nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha; pyruvate kinase, muscle; telomeric repeat binding factor 2; cell division cycle 2, G1 to S and G2 to M; ADP-ribosylation factor 3; NRF1 Protein; H factor (complement)-like 3; serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 6; mRNA of muscle specific gene M9; solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3; ribosomal protein L36a; suppressor of Ty (S. cerevisiae) 4 homolog 1; amino-terminal enhancer of split; ubiquitin A-52 residue ribosomal protein fusion product 1; hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase; chaperonin containing TCP1, subunit 2

(beta); tyrosine kinase with immunoglobulin and epidermal growth factor homology; domains; Fc fragment of IgG, receptor, transporter, alpha; NRD1 convertase; ADP-ribosylation factor 5; transcription elongation factor A (SII), 1; like mouse brain protein E46; titin; fibromodulin; and Abi-interactor 2 (Abi-2).

20. The method of claim 12, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of CDKN1B, CDKN1C, CTGF, fibromodulin, and Abi-2.

21. The method of claim 12, wherein the at least one differentially expressed gene includes at least one of IL-11, IL-13, EGR1, EGR2, EGR3, CITED2, P300, E2F1, E2F2, E2F3, E2F4, E2F5, MCP3, CXCL5, CCL7, SMAD3, TYMS, GT198, SMAD7, NCOR2, TIMP-1, and ADAM17, wherein elevated expression of IL-11, IL-13, EGR1, EGR2, EGR3, CITED2, P300, E2F1, E2F2, E2F3, E2F4, E2F5, MCP3, CXCL5, CCL7, SMAD3, TYMS, and/or GT198 is indicative of a fibrotic disorder; and wherein reduced expression of SMAD7, NCOR2, TIMP-1, and/or ADAM17 is indicative of a fibrotic disorder.

22. The method of claim 12, wherein the at least one differentially expressed gene includes at least one of those genes listed in Table 9.

23. The method of claim 12, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

24. The method of claim 12, wherein the at least one differentially expressed gene includes a plurality of genes comprising stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

25. The method of claim 12, wherein the subject is human.

26. The method of claim 12, further comprises diagnosing the subject based on said correlating.

27. A method for modulating gene expression in fibrotic tissue, comprising contacting the fibrotic tissue *in vitro* or *in vivo* with an agent that modulates expression of at least one differentially expressed gene in the tissue.

28. The method of claim 27, wherein the agent is a TGF-beta signaling inhibitor.

29. The method of claim 27, wherein the agent is a TGF-beta II receptor inhibitor.

30. The method of claim 27, wherein the agent is a TGF-beta signaling inhibitor, and wherein the agent comprises interfering RNA.

31. The method of claim 27, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of docking protein 1, 62 kD (downstream of tyrosine kinase 1); centromere protein A (17 kD); catenin (cadherin-associated protein), beta 1 (88 kD); nuclear receptor subfamily 1, group I, member 2; v-rel avian reticuloendotheliosis viral oncogene homolog A; LGN Protein; CDC28 protein kinase 1; hypothetical protein; solute carrier family 17 (sodium phosphate), member 1; FOS-like antigen-1; nuclear matrix protein p84; LERK-6 (EPLG6); visinin-like 1; phosphodiesterase 10A; KH-type splicing regulatory protein (FUSE binding protein 2); Polyposis locus (DP1 gene) mRNA; microtubule-associated protein 2; CDC5 (cell division cycle 5, S pombe, homolog)-like; Centromere autoantigen C (CENPC) mRNA; RNA guanylyltransferase and 5'-phosphatase; Nijmegen breakage syndrome 1 (nibrin); ribonuclease, RNase A family, 4; keratin 10 (epidermolytic hyperkeratosis; keratosis palmaris et plantaris); basic helix-loop-helix domain containing, class B, 2; dual specificity phosphatase 1; annexin A11; putative receptor protein; Human endogenous retrovirus HERV-K(HML6); mitogen-activated protein kinase kinase kinase 12; TXK tyrosine kinase; kynureninase (L-kynurenine hydrolase); ubiquitin specific protease 4 (proto-oncogene); peroxisome biogenesis factor 13; olfactory receptor, family 2, subfamily F, member 1; membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3); origin recognition complex, subunit 1 (yeast homolog)-like; dTDP-D-glucose 4,6-dehydratase; cytochrome c oxidase subunit VIa polypeptide 2; gamma-tubulin complex protein 2; Monocyte chemotactic protein-3; myelin transcription factor 1; inhibitor of growth family, member 1-like; thyroid hormone receptor, alpha myosin-binding protein C, slow-type; fragile X mental retardation 2; sonic hedgehog (Drosophila) homolog; 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2; SFRS protein kinase 2; excision repair cross-complementing rodent repair deficiency; cyclin-dependent kinase 5, regulatory subunit 1 (p35); poly(A)-specific ribonuclease (deadenylation nuclease); solute carrier family 12 (potassium/chloride transporters), member 4; Pseudogene for metallothionein; natriuretic peptide precursor A; intercellular adhesion molecule 2; apoptosis antagonizing transcription factor; similar to rat HREV107; major histocompatibility complex, class II, DP beta 1; MpV17 transgene, murine homolog, glomerulosclerosis; uroporphyrinogen decarboxylase; proteasome (prosome, macropain) 26S subunit, ATPase, 1; fms-related tyrosine kinase 3 ligand; actin, gamma 1; Protein Kinase Pitslre, Alpha, Alt. Splice 1-Feb; nuclear factor of

kappa light polypeptide gene enhancer in B-cells inhibitor, alpha; pyruvate kinase, muscle; telomeric repeat binding factor 2; cell division cycle 2, G1 to S and G2 to M; ADP-ribosylation factor 3; NRF1 Protein; H factor (complement)-like 3; serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 6; mRNA of muscle specific gene M9; solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3; ribosomal protein L36a; suppressor of Ty (S. cerevisiae) 4 homolog 1; amino-terminal enhancer of split; ubiquitin A-52 residue ribosomal protein fusion product 1; hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase; chaperonin containing TCP1, subunit 2 (beta); tyrosine kinase with immunoglobulin and epidermal growth factor homology; domains; Fc fragment of IgG, receptor, transporter, alpha; NRD1 convertase; ADP-ribosylation factor 5; transcription elongation factor A (SII), 1; like mouse brain protein E46; titin; fibromodulin; and Abi-interactor 2 (Abi-2).

32. The method of claim 27, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of CDKN1B, CDKN1C, CTGF, fibromodulin, and Abi-2.

33. The method of claim 27, wherein the at least one differentially expressed gene includes at least one of IL-11, IL-13, EGR1, EGR2, EGR3, CITED2, P300, E2F1, E2F2, E2F3, E2F4, E2F5, MCP3, CXCL5, CCL7, SMAD3, TYMS, GT198, SMAD7, NCOR2, TIMP-1, and ADAM17.

34. The method of claim 27, wherein the at least one differentially expressed gene includes at least one of those genes listed in Table 9.

35. The method of claim 27, wherein the at least one differentially expressed gene includes at least one gene selected from the group consisting of stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

36. The method of claim 27, wherein the at least one differentially expressed gene includes a plurality of genes comprising stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

37. The method of claim 27, wherein the agent is a selective estrogen receptor modulator (SERM).

38. The method of claim 27, wherein the agent is a selective progesterone receptor modulator (SPRM).

39. The method of claim 27, wherein the agent is a mast cell inhibitor.

40. The method of claim 27, wherein the agent has a pyrazolopyridine scaffold, a pyrazole scaffold, an imadazpyridine scaffold, a triazole scaffold, a pyridopyrimidine scaffold, or an isothiazole scaffold.

41. The method of claim 27, wherein the agent is a GnRh agonist or antagonist.

42. The method of claim 27, wherein the agent is at least one selected from the group consisting of roloxifene; asoprisnil (J867); RU486; SB-505124; SB-431542; tranlist; cystatin C (CystC); SD-208; LY550410; LY580276; pitavastatin; 1,-5 naphthyridine amiothiazole derivative; 1,5 naphthyridine pyrazole derivative; and ursolic acid.

43. An array comprising a substrate having a plurality of addresses, wherein each address disposed thereon has a capture probe that can specifically bind at least one polynucleotide that is differentially expressed in fibrotic disorders, or a complement thereof.

44. The array of claim 43, wherein the at least one polynucleotide is selected from the group consisting of docking protein 1, 62 kD (downstream of tyrosine kinase 1); centromere protein A (17 kD); catenin (cadherin-associated protein), beta 1 (88 kD); nuclear receptor subfamily 1, group I, member 2; v-rel avian reticuloendotheliosis viral oncogene homolog A; LGN Protein; CDC28 protein kinase 1; hypothetical protein; solute carrier family 17 (sodium phosphate), member 1; FOS-like antigen-1; nuclear matrix protein p84; LERK-6 (EPLG6); visinin-like 1; phosphodiesterase 10A; KH-type splicing regulatory protein (FUSE binding protein 2); Polyposis locus (DP1 gene) mRNA; microtubule-associated protein 2; CDC5 (cell division cycle 5, S pombe, homolog)-like; Centromere autoantigen C (CENPC) mRNA; RNA guanylyltransferase and 5'-phosphatase; Nijmegen breakage syndrome 1 (nibrin); ribonuclease, RNase A family, 4; keratin 10 (epidermolytic hyperkeratosis; keratosis palmaris et plantaris); basic helix-loop-helix domain containing, class B, 2; dual specificity phosphatase 1; annexin A11; putative receptor protein; Human endogenous retrovirus HERV-K(HML6); mitogen-activated protein kinase kinase kinase 12; TXK tyrosine kinase; kynureninase (L-kynurenine hydrolase); ubiquitin specific protease 4 (proto-oncogene); peroxisome biogenesis factor 13; olfactory receptor, family 2, subfamily F, member 1; membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3); origin recognition complex, subunit 1 (yeast homolog)-like; dTDP-D-glucose 4,6-dehydratase; cytochrome c oxidase subunit VIa polypeptide 2; gamma-tubulin complex protein 2; Monocyte chemotactic protein-3; myelin transcription factor 1; inhibitor of growth family, member 1-like; thyroid hormone receptor, alpha myosin-binding protein C, slow-type; fragile X mental retardation 2;

sonic hedgehog (Drosophila) homolog; 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2; SFRS protein kinase 2; excision repair cross-complementing rodent repair deficiency; cyclin-dependent kinase 5, regulatory subunit 1 (p35); poly(A)-specific ribonuclease (deadenylation nuclease); solute carrier family 12 (potassium/chloride transporters), member 4; Pseudogene for metallothionein; natriuretic peptide precursor A; intercellular adhesion molecule 2; apoptosis antagonizing transcription factor; similar to rat HREV107; major histocompatibility complex, class II, DP beta 1; MpV17 transgene, murine homolog, glomerulosclerosis; uroporphyrinogen decarboxylase; proteasome (prosome, macropain) 26S subunit, ATPase, 1; fms-related tyrosine kinase 3 ligand; actin, gamma 1; Protein Kinase Pitslre, Alpha, Alt. Splice 1-Feb; nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha; pyruvate kinase, muscle; telomeric repeat binding factor 2; cell division cycle 2, G1 to S and G2 to M; ADP-ribosylation factor 3; NRF1 Protein; H factor (complement)-like 3; serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 6; mRNA of muscle specific gene M9; solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3; ribosomal protein L36a; suppressor of Ty (S. cerevisiae) 4 homolog 1; amino-terminal enhancer of split; ubiquitin A-52 residue ribosomal protein fusion product 1; hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase; chaperonin containing TCP1, subunit 2 (beta); tyrosine kinase with immunoglobulin and epidermal growth factor homology; domains; Fc fragment of IgG, receptor, transporter, alpha; NRD1 convertase; ADP-ribosylation factor 5; transcription elongation factor A (SII), 1; like mouse brain protein E46; titin; fibromodulin; and Abi-interactor 2 (Abi-2).

45. The array of claim 43, wherein the at least one polynucleotide includes at least one gene selected from the group consisting of CDKN1B, CDKN1C, CTGF, fibromodulin, and Abi-2.

46. The array of claim 43, wherein the at least one polynucleotide includes at least one gene selected from the group consisting of IL-11, IL-13, EGR1, EGR2, EGR3, CITED2, P300, E2F1, E2F2, E2F3, E2F4, E2F5, MCP3, CXCL5, CCL7, SMAD3, TYMS, GT198, SMAD7, NCOR2, TIMP-1, and ADAM17.

47. The array of claim 43, wherein the at least one polynucleotide includes at least one of those genes listed in Table 9.

48. The array of claim 43, wherein the at least one polynucleotide includes at least one gene selected from the group consisting of stanniocalcin 2, interleukin 11, disintegrin and

metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

49. The array of claim 43, wherein the at least one polynucleotide includes a plurality of genes comprising stanniocalcin 2, interleukin 11, disintegrin and metalloproteinase domain 17, early growth response 3, fibromodulin, collagen type XVIII alpha 1, and interleukin 13.

50. The array of claim 43, wherein the array further comprises a capture probe that can specifically bind at least one polynucleotide encoding a house-keeping gene as a control.

51. The array of claim 43, wherein each of said addresses comprises a well, and wherein each of said capture probes comprises a primer for amplifying RNA in a biological sample that is deposited in said well

52. The array of claim 43, wherein said capture probes bind said polynucleotides under stringent conditions.

53. The array of claim 43, wherein said polynucleotide bound by the capture probe of each address is unique among the plurality of addresses.

54. The array of claim 43, wherein said substrate has no more than 500 addresses.

55. The array of claim 43, wherein said substrate has 200 to 500 addresses.